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## ORIGINAL DEPARTMENT.

### COMMUNICATIONS.

#### EXCISION OF THE HIP-JOINT FOR MORBUS COXARIUS.

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With a case of coxalgia in hand, which has reached the third stage, after having passed successively through the two previous stages, resisting all the treatment instituted for its arrest, the grave question naturally arises, *Shall we, or shall we not, excise the diseased joint?*

Under such circumstances the intelligent and conscientious surgeon can fully appreciate the gravity of the interrogation, and the responsibility resting upon him in deciding the course proper to be pursued. In the answer, many important points for consideration will arise, each in themselves more or less difficult of ready and correct response. To consider and answer as many of these as a brief limit will permit, will be one object of this paper.

Among the first queries arising will be, What will be the results of the case or cases if other than operative treatment is instituted and carried out? This would naturally lead to a consideration of the prognosis. What, then, is the prognosis? During the first and second stages, or at least up to the first half of the second stage, the disease may be, and often is arrested, under proper management, and a more or less useful joint results. Excision, then, during these stages, is out of the question, unless we accept the advice of Fock, who taught that excision

should be resorted to as soon as caries of the joint was satisfactorily diagnosed. But few have ever been sufficiently impressed with the value of this advice to carry it out in practice. Indeed, it would be folly to perform excision while there was a reasonable prospect of recovery without it; but we have no right to cling to the hope of such recovery when every, or almost every symptom indicates a distant fatal result, without operative interference.

When cases reach the third stage, much of the future result will depend on the extent of the disease, and the constitutional diathesis of the patient. If the osseous disease is extensive, or if the case be one of a strumous habit, little may be expected from ordinary means, and if the latter condition prevails largely, operative interference may prolong life, and prevent a vast amount of suffering, but probably will not be a final success. Also, when there is evidence of visceral involvement, operative procedure would not be justifiable. As to the final result in these cases, without excision, various opinions are still entertained; while some maintain that a fatal issue may usually be expected, either from long continued and free suppuration, or from the various organs becoming involved in the course of the disease, and that the most that can be expected, however well the treatment is carried out (we are speaking now of the third stage only), is that the patient will recover, if at all, with a fearfully impaired constitution, an ankylosed hip-joint, which is liable to become so at any angle, with deformed spine, and so left an easy prey to any future attacks of disease. Of the correctness of this opinion

I am myself convinced. A good idea of the deformity resulting from this disease may be obtained from an article and accompanying cuts in the *American Journal of the Medical Sciences*, for April, 1867, p. 414.

While ankylosis is the rule in recoveries from coxalgia, it does not invariably occur. Only a few days ago a case presented at my office which had, as he stated, suffered with the disease forty years ago. There were still existing the cicatrices of seven different sinuses, which had formerly discharged pus, and out of one of them came the head of the femur, which he still has in his possession.\* The limb is five and a half inches shortened, much atrophied, and weak. The upper end of the femur rests on the dorsum illi, rather posteriorly, at which point a kind of fibro-cartilaginous capsule seems to be formed, and in which the limb can be moved two and a half inches up and down, and be thrown outwards so far that the rounded end of the bone can easily be felt through the thin tissues covering it. He walks very imperfectly, and does no manual labor. He is now fifty-eight years old, and states that the disease began when he was fifteen. The motion at this false joint is quite free in all directions. In reference to the prognosis of this disease, Gross states that, "left to itself, the disease nearly always proves fatal, life being gradually worn out by hectic irritation and profuse discharge. Assuredly, then, unless the patient is in an utterly forlorn condition, both science and humanity would dictate the propriety of interference, in the hope of rescuing the individual from his impending fate."

Erichsen thinks when suppuration is established recovery need not be "despaired of;" "but convalescence will be greatly protracted." But he frankly admits the gravity of the disease, both to life and utility of limb, stating, however, as we have above, that very much will depend on the patient's constitution, and the extent of the disease. The authority of many might be given, stating an unfavorable prognosis, but we will give much of this, necessarily, further on, in stating the indications and contra-indications for excision in coxalgia.

*History since 1769.*—Charles White, of Manchester, England, first proposed ex-

cision of the hip. He performed this operation on the cadaver, and says, "I have no doubt but that this operation can be practiced upon the living subject with great prospects of success." From this date down to 1817, various surgeons, as Vermandois, Chaussier, Wachter, Kœller, and Rossi, experimented on dogs, proving the operation successful on these animals. Others have performed similar experiments since that date.\*

Schmaltz was the first who operated intending to remove the diseased head of the femur (1817); but after making his incisions was surprised to find the head had already separated, and was lying detached in the joint. This operator should have the credit of being the first to attempt to carry out the suggestions of Mr. Charles White, made forty-eight years before the date of his operation.

Anthony White, of Westminster Hospital, was the first to really perform the operation of excision, which he accomplished on a boy eight years of age, who recovered. The head of the bone was dislocated, rested on the dorsum illi, and was found to be carious. The head and trochanters were removed. This occurred in 1821. Two years later Hewson, of Dublin, repeated the operation, losing his patient. No other operations are known to have been done in Great Britain for twenty-two years. But on the continent Oppenheim, in 1829, and Sentin, in 1832, operated. In 1845, Fergusson, of King's College Hospital, operated, and by his published papers revived the operation in England, since which date it has, through violence of controversy, fought its way up to becoming an established procedure in nearly all civilized countries. It is now known to have been performed about 400 times, with very varying success in the hands of different surgeons.

#### PROPRIETY OF THE OPERATION.

As the disease is by no means one of rarity, it becomes a practical surgeon to operate when the case is a proper one. Some contend that it is never a justifiable measure to remove the joint under any circumstances, and that many cases recover in spite of the operation rather than on account of it, and that very many of the cases operated on would effect a spontaneous

\* Nature, in this instance, removed the offending head of the femur.

† Sys. Surgery, vol. II., p. 101<sup>st</sup>, 3d ed.

\* F. Leyster, Trans. Med. Soc. of Mich.

cure, and, therefore, the value of the operation is greatly over-estimated.

On the other hand, "no principle of surgery is better established than that of removing, when practicable, sources of irritation. It is a well recognized fact that dead bone exposed to the action of the air is always an irritant, keeping up suppuration; and it is equally well established that long protracted suppuration breaks down the general health, and may either directly, or by induced amyloid visceral degenerations, ultimately cause the death of the patient. Why not, then, in view of this principle and these facts, excise the carious head of the femur? For two reasons, say the opponents of the operation: 1st. In a considerable number of cases spontaneous recovery takes place. 2d. The caries is not limited to the lower half of the coxo-femoral articulation, and in order that excision may accomplish its object it must be complete, not partial, removing all the dead bone." (Conner, in *The Clinic*, for Dec. 9, 1871.)

It is true that under the present management of this class of cases, or rather the present available management, very many of these cases may effect a spontaneous cure. But this is only correct with reference to those who possess naturally good constitutions, are not tuberculous, are well managed, and possess the advantages of good, wholesome, nourishing diet, fresh air, and other valuable hygienic surroundings. But these advantages do not always attain. In hospitals, and among the "well to do" and intelligent classes, these hygienic advantages and the mechanical treatment can be kept well in hand; but among the poor and ignorant, where most of these cases originate, such is often impossible. They can neither furnish the means nor see the necessity of the treatment being so long carried out as is required to effect a permanent cure. As a result many of these cases terminate fatally that might be saved by excision. "The value of coxo-femoral resection is consequently forced upon the attention of every practitioner."\*

The second objection mentioned above is one that "is just and serious," if the resection is not sufficiently thorough to remove all the diseased osseous tissue. But since the operation was first performed, surgery has become more bold, and the cotyloid

cavity, and even much more of the os innominatum, has been successfully removed, and, by Hancock, the greater extent of the diseased bone is considered as constituting a greater necessity for operative interference; and we must admit the propriety of this reasoning when we remember that the patient's chances for spontaneous recovery, *ceteris paribus*, are in proportion to the extent of the osseous disease.

Let us see what constitutes the objections to excision. Syme, who bitterly opposed the operation, says,\* "There can be no hesitation in regarding the operation as decidedly improper, since it is well known that the acetabulum is, with hardly any exception, implicated in the disease, and suffers from it to a greater extent than the femur. Although, therefore, one out of twenty cases of morbus coxarius admitted of an effectual excision, an operator would certainly not be justified in the general employment of a practice which could be of use so very seldom. If it were possible to ascertain previously to the performance of an operation whether or not the patient could be freed by it from his disease, there might be some advantage derived from it; but as this is not the case, prudence and humanity equally forbid excision of the hip-joint."

It is evident that Syme considered the disease of the cotyloid cavity an insuperable barrier to excision, but some, in fact, very many able surgeons do not, at this date, consider that it renders the case too grave for operative interference, and some think it calls more loudly for excision.

Dr. C. F. Taylor, of the New York City Orthopaedic Hospital, says, "I notice that, as a rule, with one or two notable exceptions, those who have most to do with these cases are least inclined to rush into so grave an operation. The operation should be to save life; so far as I have seen it is worthless for saving the use of the leg. An ankylosed joint is much more useful than an exected one."†

Le Gros Clarke (*Loc. cit.*), who excised the hip-joint some years since, at St. Thomas' Hospital, is "not over partial to this operation." He says, "I have repeatedly excised the elbow and knee joints, and entertain high opinions of these operations

\* Syme's *Surgical Works*, from P. S. Conner, in *Clinic*, Dec. 9, 1871.

† Michigan State Soc. Trans., 1870, p. 27.

in suitable cases. The difficulty of determining the condition, and of selecting the time adapted to excision of the hip-joint I consider much greater than in the case of other joints similarly diseased."

Drs. Vincent Jackson, E. Andrews, and Maisonneuve think that with the proper use of apparatus and antiseptic injections, most cases will recover without excision. Bryant states when the head of the femur and acetabulum are diseased "there are not many instances when much benefit can be expected, and as a consequence the operation of excision should not be performed."\*

Dr. Louis Bauer† is of the opinion that if caries "extends to the acetabulum and beyond the bones of the pelvis, but little can be expected from an operation which has to leave behind it diseased structures," and further (Loc. cit.), "the more improved principle of treating hip-joint disease must necessarily tend to diminish the number of operations. Though the disease will take its course as before, still, by keeping the joint at rest and in a good position, the head of the bone will be gradually carried off without much disturbance to the system, by what may be called interstitial absorption, or by a formation of new vessels and establishment of a new source of supply; nevertheless, the operation will retain its value in all those cases of hip-joint disease accompanied by profuse suppuration, threatening life by loss of substance."

Bilroth states,‡ "Resection of the hip is open to one grave objection; we cannot resect the acetabulum, which is usually diseased at the same time, or we can only do so imperfectly."

Again, Syme says (Braithwaite v. 19, p. 119), "If the articulating surface of the head of the thigh bone be carious, it follows as a matter of absolute certainty that the acetabulum must be in a similar condition. But as the acetabulum does not admit of a removal in the living body with any prospect of safety or advantage, no benefit can be derived from taking away a part of the articulation; and, therefore, excision of the head of the thigh bone for caries of the joint should be regarded as no less erroneous in theory than objectionable in practice."

In the language of Prof. Conner (Clinic, Dec. 9, 1871, p. 206), "Acetabular disease,

then, is the lion in the path." And so it seems to have been the case, and is so yet, but to probably a less degree. While Syme dreaded to remove the cotyloid cavity, he seemed to have no fear in removing necrosed bone from the pelvic bones at points where the pelvic cavity was quite as much endangered as in perforating the acetabulum in *morbus coxarius*; for, in this disease, when the continuity of the surface of the cavity is seriously broken up or carious, and perforation likely to occur, nature provides for it so as to prevent, in most instances, the pus from entering the peritoneal cavity, by a proliferation of the tissues—in the periosteum and fascia—to such a degree that pus seldom reaches the pelvic viscera or peritoneum. Hence, if these tissues are thickened, and the periosteum "easily separated," or already so, the bugbear of entering the pelvic cavity during the process of removing the acetabulum, or the floor of it, is not so great as many imagine. Again, if pus has entered that cavity, the simple retention of the diseased acetabulum adds nothing to the better chances of the patient, but rather adds to the difficulty, as it is still pouring out pus and morbid secretions, adding to or keeping up the fire already built. But the removal of the cotyloid cavity, or the floor of it, as may require, does facilitate the chances of escape of the morbid fluid, and afford better opportunity for nature to assume a healthier condition within the pelvis.

On this point Mr. Hancock says,\* "It is only in a few rare instances that the surgeon can tell beforehand what is the condition of the cotyloid cavity; but supposing he can do so, that a patient presents whose condition imperatively calls for operation in all respects, but that the acetabulum is extensively diseased, are we to abandon this patient to his fate and suffer him to die in agony? Is it not rather an additional reason for performing the operation? since the greater the amount of disease the smaller the chance of recovery; whilst the value of an operation does not consist in the facility of its performance, but in the urgency of the symptoms and the extent of the disease and suffering it is capable of removing. It is very true, that in the majority of instances the bones of the pelvis appear to possess a wonderful power of reparation. The cases

\* Diseases and Injuries of Joints, p. 144.

† Mich. State Soc. Trans., 1870, p. 29.

‡ Surg. Path., Amer. ed., p. 372.

\* See Barwell, p. 434, Dis. Joints.

operated on show this." . . . . "It would seem, therefore, much the safer to remove the doubtful portion of the acetabulum than to leave it behind, or merely to scrape it with a gouge." He states still further, "Mr. Coulson and Mr. Henry Smith lay considerable stress upon perforation of the acetabulum as an insuperable barrier to the operation; but if I am able to prove that instead of being so, the operation may be performed under these apparently unpromising circumstances, it will, I am sure, be agreed that its application to such cases eminently enhances its value. Since it affords a prospect of cure to an amount of disease hitherto considered irremediable. Presuming, always, that the disease is confined to these limits, that the viscera and spine are healthy, and the lungs free from tubercles, I do not understand why a pelvic abscess depending upon hip-disease, or caries of the pelvis, should not be cured as well as any other abscess connected with caries elsewhere, provided it can be reduced to the same condition. The amount of caries is often comparatively small, and though capable of causing excessive discharge, is confined to the limits of the acetabulum and the part perforated. In pelvic abscess, depending on hip-disease, the head of the bone is often retained in the acetabulum after perforation of the latter has obtained: the matter thus escaping from the joint, the same lull in the constitutional symptoms takes place as is so often observed after spontaneous dislocation. Such abscesses are not cured, because the matter, if left to itself, cannot find a depending exit."

"The matter in pelvic abscess from hip-disease is outside the obturator fascia, between it and the bone separating the former from the latter, and causing a considerable interval between the two, so that the whole of the cotyloid portion of the pelvis, and for some distance beyond, may be removed without any risk of injury to the pelvic contents."

"In those cases in which there is neither pelvic abscess, nor perforation, but extensive disease of the acetabulum, I cannot see the objection to the operation. Here we have a patient actually dying; we know that an operation holds out the only chance. The whole of the acetabulum, even in a healthy condition, may be removed without penetrating the cavity of the pelvis, or injury to the parts contained; the whole of the opera-

tion is external to the obturator muscle, consequently to the levator anus, and so far, extra-pelvic. And if it can be done thus easily when the parts are healthy, it can be done with still greater facility when the acetabulum is much diseased, and when, in all probability, the internal periosteum and obturator fascia will be detached from the bone."

Barwell\* believes that a certain class of cases will, in spite of the most approved treatment, go on from bad to worse, especially of those that begin as ostitis. "In such cases excision is the only resort." This operation is usually postponed too long, and instead of regarding it as an ultimate resource, we should rather aim it as a means whereby we may yet procure for the patient a useful limb. Amputation he considers as "worse than useless," and not to be thought of in this disease.

Fock believed that excision should be practiced as "soon as caries of the joint has been diagnosed with certainty." This is probably too extreme, for no doubt many cases may effect a cure, under proper management, after the disease is well known to be established, and has reached the latter part of the second stage, or even the third.

Dr. Richard Good states that, while there "are cases cured without the interference of the knife, how many who have had every advantage of mechanical treatment have lost their lives? It is our opinion that more could be gained, in many cases, by freeing the patient from the source of evil, especially if it be a local one, than by permitting it to remain, and expect Nature to perform a cure." As to the time for excision he agrees with Fock.

Dr. Sayre says† "that a very extensive experience in this class of diseases in the last ten years has only confirmed my views that when the bone has become carious or necrosed it acts as a foreign body, keeping up suppuration until it has been discharged by the slow process of exfoliation, and often the periosteum throwing out new bone imprisons the dead portions, so that they cannot escape; and so the drain is kept up until they succumb from exhaustion. To prevent this I think it always better, under such circumstances, to operate, peeling off the periosteum, entirely removing the dead bone,

\* Dis. Joints, p. 333.

† Mich. State Soc. Trans., by H. F. Leyster.

and thus accomplishing in a few minutes what Nature requires years to do."

These quotations could be lengthened out to a great extent, but it is unnecessary. Let it suffice to mention that Furguson, J. D. Hill, Gant, Ashhurst, Gross, Sayre, Bryant, Barwell, Erichsen, Langenbeck, Eulenberg, Esmarck, Fock, Bardellin, Dumreichner, Krackowizer, Bauer, Andrews, Hancock, Cheever, Good, Miner, H. H. Smith, Winne, Hodge, and others, all more or less warmly advocate the operation of excision. A few advocate it as a *dernier resort*, but more advocate it when all reasonable chance of recovery without operation has proved to be of no avail in arresting the disease; while still others warmly advocate early and complete excision. For myself, I think when proper medical treatment and mechanical apparatus have been well tried, without arresting or curing the disease, or affording any very reasonable prospect of cure, the case being in the third stage, with no spinal or visceral involvement, or serious contra-indications, that the surgeon who would refuse to excise the hip-joint would be very derelict of duty to his patient. And in regard to the extent, I would say, if the acetabulum is diseased, or even if the caries extend beyond that cavity, excise all of the diseased bone, by all means, as any portion left behind will continue to act as a source of irritation, thus keeping up the exhausting drain, and weigh against the chances of final recovery.

*The Time for the Operation.*—A very natural question arises, When is excision indicated or admissible, and when is it contra-indicated, and therefore inadmissible? By some surgeons in the past, as in the present, involvement of the acetabulum was and is still considered a bar to excision. But I think it is now sufficiently proven that this does not by any means contraindicate operative interference; and I think, as Mr. Hancock states, that it is only an additional reason why it should be done, for the greater the extent of the caries the smaller the chances of recovery by other means, while at the same time its removal does not seem to but slightly, if at all, increase the fatality after the operation. Besides, it cannot, in many cases, be decided beforehand whether the cotyloid cavity is diseased or not, or to what extent. In a paper by J. Ashhurst, Jr., published in the "Pennsylvania Hospital Reports" for 1869,

in 102 cases the acetabulum was more or less removed with a mortality of 38 per cent, while in 35 the acetabulum was not touched, followed by a mortality of 43 per cent. So far as this goes, it shows 7 per cent. in favor of removing diseased portions of the cavity. Eulenbergh gave his opinion that partial removal of the carious bone was followed by greater fatality than complete, whether it be in the femur or cavity, or both.

In arthritic coxalgia excision is seldom called for, as recovery generally occurs under proper management with an ankylosed joint. But in the third stage of caries of the joint, where every available means has failed to afford any reasonable prospect of recovery, the operation is not only proper, but absolutely demanded at our hands; and while I would not agree with Fock that it should be done as soon as caries of the joint is positively diagnosed, I would not, on the other hand, advocate its performance as a *dernier resort*, or when the last thread of life is about to snap. Too much of such work is what gives the statistics of this operation the comparatively unfavorable showing they now have. I would, therefore, advocate resort to excision of the hip-joint, when, after fair trial of good diet, hygiene, and remedies, and of mechanical means, there was little or no sign of improvement, but evidence of failure in the face of these agents; and when there was little or no visceral, spinal, or other serious complication, it should then be done.

The following rules are given by Frederick J. Gant, Surgeon to the Royal Free Hospital, of London, and which may generally govern us in these cases:—

(1.) "Destruction of the articular cartilages, without the supervention of ankylosis,\* will always justify operative interference by excision. The constitutional condition will probably *not* then have advanced to hectic and emaciation. But the state of the general health should primarily determine the necessity for excision in all cases, and *not any arbitrary consideration of the period of the disease, and the condition of the joint* (italics mine). Whenever, therefore, the general health is manifestly failing, whatever may be the stage of the hip disease, excision should be resorted to, and without further delay." . . . . "On the other hand, the most extreme state of constitutional exhaustion previous to the operation

\* *Lancet* for October, 1871, p. 598.

of excision may be followed by recovery after removal of the diseased bone."

(2.) "Osseous ankylosis, with mal-position of the limb, will not justify the peril of attempted excision."

(3.) "The extent of bone diseased may be considerable, and involve both the femur and acetabulum. In the femur the diseased portion may include the head, neck, great trochanter, and shaft, entering even into the medullary canal. In the *acetabulum* the diseased portion may include the whole floor of this cavity, and even extend to adjoining portions of the ilium, pubes, and ischium. Neither of these conditions of extensive osseous disease prohibits excision; but the acetabulum not unfrequently recovers itself when the diseased head of the femur has been removed from further contact and attrition."

(4.) "Dislocation is *unfavorable* (italics mine) for excision, as implying an advanced stage of the disease constitutionally. The significance of this local condition will, therefore, diminish in proportion to the absence of marked hectic and emaciation."

These rules are quite contrary to instructions laid down in other days, and by a few now. The third rule is certainly a correct one, for it has been proven beyond reasonable room for doubt that in proportion to the extent of the osseous disease is the danger of fatality to the patient without excision; but while extensive osseous disease lends gravity to the case for operation, and its final results, the subjects of it not unfrequently recover. In proof of this, reference need only be made to various authorities on the subject. Furgason removed in one instance  $4\frac{1}{2}$  inches of the femur. In another, several inches of the upper end of the femur, the ilium to the anterior inferior epiphiel process, with a large part of the body of the ischium, and part of pubic bone. The patient made a good recovery. White, of Delaware, removed four inches of the upper end of the femur. A good recovery followed. Gant has removed five inches of the upper end of the femur with excellent results. The most extensive removal of the femur published, so far as my knowledge goes, is reported by Dr. Charles Kearnes,\* at St. Elizabeth's Hospital, Covington, Kentucky. The patient was twelve years of age, who had been more or less afflicted with the dis-

ease for two years. In this case the upper end of the femur was removed down "to the *expansion of bone just above the condyles*." . . . . "The wound healed kindly, the discharge continuing longest at the point opposite the acetabulum. In six weeks time the boy was upon his crutches, and walked around the hospital and grounds adjacent; the weight of the foot continuing the extension, and, in fact, being the only extension the limb ever had. At the expiration of three months he left the hospital, and I have seen him only once since December 1st, when upon careful examination of the limb I find, where the femur was, a hard substance, larger than the natural femur, which I am inclined to think is ossific matter. The limb is not atrophied, or very little, and shortened  $5\frac{1}{2}$  inches. The motion in the hip and knee being good, with power to flex and extend, to rotate, adduct and abduct, and with power sufficient in the leg to support, for a short time, the weight of the body."

Gant's fourth rule is certainly correct, for it is now established that luxation of the head of the femur seldom occurs in coxarius, and when it does so, it is not until the local disease has so far impaired the powers of the constitution as to render a favorable result after excision doubtful.

The question naturally arises, what is the utility of the limb following excision, as compared with that resulting from natural cure, or cure without excision. There is no doubt but that if the ankylosis occurs in a good position it affords a more useful limb than is often obtained after excision. But this correct position cannot always be obtained, as will readily be observed in many cases, and by reference to cases, with drawing representing the same, in Erichsen's last edition of *Surgery*, given by Ashhurst, of Philadelphia, in illustration of cases of natural cure which occurred at the Pennsylvania Hospital. It will be seen that under the best of care that can be used, ankylosis may take place at any angle with the body, obtuse, acute, or at right angles. It is also true that in all cases where ankylosis occurs, the spine is more or less deformed, to compensate for the loss of motion at the hip, and very often these deformities are most unsightly, and not unfrequently render the limb useless. In the case of recovery coming under my observation, where ankylosis did not occur (*see ante*), the limb was of

sufficient utility to walk on it, but the spine was not deformed. This is the only case of the kind I know of.

After excision there is utility of the limb in 60 per cent. of those who recover, i. e., there is that proportion that are able to walk on the limb with or without the aid of a cane. Hodge's table shows 111 recoveries, of which 56 had "more or less useful limbs." Of Good's 112 recoveries, shown by table, 52 recovered, "42 patients could use the limb," the remaining 10 cases, result not noted.

The rate of mortality following the operation varies greatly with the age of the patients. Of those under 10 years, two-thirds recover; between 10 and 20, one-half recover; after that age, up to 25 years, one-third recover. But one case has been known to recover after thirty years of age, and that was at the age of 58 years. From 10 to 15 years the fatality is a little more than one-third, with nearly two-thirds of recoveries. It will be seen, then, that after the age of puberty it becomes a very fatal operation. According to Dr. Ashhurst's statement\* there have now been 400 cases of excision reported, and taking all the cases and all ages there has been a recovery of but 50 per cent. It will be remembered, however, that very many of these cases were operated on as a dernier resort, to save life only, and with no reference to the use of the limb, and that it also includes those whose ages would necessarily preclude the probability of a favorable result. More recent advances have been doing much towards placing a more favorable aspect on the statistical showing, and this by not making excision a dernier resort, but one which should be done before life is seriously imperiled.

During the summer of last year I had under my charge a little girl who was suffering from this disease. When she came into my care she was just entering the third stage. The evidence of suppuration soon became apparent. An abscess formed below and in front of the trochanter major; the right hip being the one involved. She had been treated up to this time without having extension practiced or strict quietude enjoined, and with a very irregular remedial course. She was pale, anemic, hectic, sweating freely during the night, a constant sufferer from the agonizing pain, and added to all this were very bad hygienic surroundings

in most every particular. She was aged 7½ years. There was no mistaking the nature of the case. I placed her on a tonic alternative course, with the best nourishment that could be afforded, and the free use of various anodynes. In short, every means was used to arrest the disease that could be brought to bear, but without avail; she continued to fail. In July I recommended excision, to which the parents after a short time consented. I then called a council, the majority of whom disagreed with me, both as to the nature of the disease and the necessity of the operation, all advising the continuance of the treatment for at least a month, and carefully observing its effects. To me this seemed like a piece of nonsense, for the child had already been rapidly failing under these means, and I believed much valuable time was being lost by continuing in the same course. I could do little more than consent to the voice of older and a greater number of heads. The test proved that the child still continued to fail. I then resolved to operate, which I did on the 18th of September, 1871, assisted by Drs. Hudson, Guthrie and Tidd. The head of the bone was removed below the trochanter major. It was found to be carious, as was also the cotyloid cavity, the floor of which was gouged out. But little blood was lost, and the shock was well borne. The excruciating pain was no more felt, and the absence of this alone was quite enough to pay for the operation, as she was now comfortable and cheerful, and so continued for several months. In less than three weeks she was able to ride out, and improved rapidly up to the 20th of December. About that time the healing process seemed to cease, an ugly cough made its appearance, hectic fever again appeared, suppuration became more free. This cough seemed to be the result of bronchitis caused by cold. From the date above named there was no improvement, but a gradual decline, with evidence of pulmonary tubercular disease. The case terminated fatally about the 15th of January, 1872.

I have no doubt that had this case been operated on two months sooner the chances would have been much better for final recovery. As it was, I am satisfied that life was greatly prolonged, and I know a vast amount of suffering was prevented, for after the operation she never complained once of any pain, whereas, before it, her shrieks from the agonizing pain, which was almost

\* Amer. Journal Med. Science, for Oct., 1871.

constant, were terrible. Under similar circumstances I would feel justified in repeating the operation, but I would resort to it earlier. But, even if I knew there would not be a final recovery, either with or without the operation, I would perform it on account of the relief from suffering which it would afford. I have not detailed all the particulars of this case in full, but simply given the main points.

Again, I do not wish to be understood as being an unlimited advocate of excision, but simply as warmly commanding it after other means have had reasonable time and opportunity to arrest the disease without success, and where there are no very serious contraindications, such as have been mentioned in former pages of this article.

#### GYNÆCOLOGICAL NOTES. — RUPTURED PERINEUM.

BY T. J. HUTTON, M. D.,

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In a previous article, written under the above heading, was forwarded the clinical record of cases illustrating amputations of the cervix uteri. The present article contains the clinical record of seven cases operated on for ruptured perineum in this hospital.

Case I.—Harriet B., aged 24, U. S., admitted to Long Island College Hospital, March 6, 1871; has been married nine years; has had three children. At birth of second child perineum was injured; sphincter ani is not involved, yet the uterus has been at times wholly external to vulva.

Patient was anæsthetized by ether, and placed upon the table in dorsal decubitus, her bowels having previously been thoroughly evacuated by oil and enema. The lacerated surfaces were thoroughly freshened by scissors and scalpel, and then approximated by three double silver-wire sutures, each suture being introduced about half an inch from the median rent, passed deeply through, and the three fastened on either side by pieces of elastic catheter. Several horse-hair sutures were introduced, to approximate more closely the tegumentary or superficial surfaces of the wound, which incline to gape as the deep sutures are being fastened. The parts were now cleansed,

the knees bound together, and patient borne to bed. Towards night an anodyne suppository was administered.

March 7.—Passed a very good night; slight oedema of parts; urine drawn by catheter twice since operation. To-day tension of parts, and pain increased. P. M., ordered suppository.

March 8.—Slept several hours during night. Patient has a slight bronchitis, and the cough attending increases the pain and tension of the parts. Continued the suppositories.

March 11.—Doing nicely. Cough has subsided; also pain and tenderness diminished. Slight discharge from vagina; ordered it syringed with tepid water twice daily.

March 12.—Bowels moved by an injection.

March 13.—Wire sutures removed, and wound examined; slight ulceration from the quills; union perfect throughout.

March 31.—Wound completely healed, and being able to walk with comparative ease, left hospital. Ordered rest, and wearing of perineal bandage for a few weeks.

Case II.—Mary C., aged 42, Ireland, admitted March 13, 1872. The perineum ruptured in labor twenty-two years ago, and complete procidentia has existed nearly four years. The vaginal mucous membrane presents a dry, rough, tegumentary appearance. Micturition is extremely painful, and almost impossible, save by partially reducing the displaced organ.

March 14.—Bowels having been evacuated thoroughly, the vagina was everted, and an elliptical section of the anterior wall (measuring three inches in length and two in width at its widest part) was removed, and the edges approximated by ten silver-wire sutures, the free ends of which were secured by perforated shots. The uterus was now replaced. No anæsthetic was used in this operation. The patient was now etherized, and the perineum vivified and approximated, as in former case, sphincter not being involved. The hemorrhage in both operations was very trifling, no ligatures, torsion, or styptic being used.

March 16.—Doing nicely; sleeps and eats well; has very little pain; urine drawn by catheter *pro re nata*.

March 18.—Troubled with flatulence, also irritability of bladder. Ordered potass. bicarb.  $\frac{3}{4}$  j, every two hours, in flax-seed tea.

March 19.—Former symptoms relieved;

has good appetite; vagina syringed thrice daily with carbolized water.

March 23.—Deep sutures removed; good union, but severe ulceration from quills. Bowels moved to-day for the first time since the operation.

March 24.—Sutures removed from vagina; union perfect nearly throughout; about one eighth of an inch ununited.

April 8.—Patient allowed to sit up, using a T bandage; is also using vaginal injections of alum water.

April 21.—Patient discharged perfectly cured.

**CASE III.**—Ellen D., Ireland, aged 55, admitted March 23, 1871. This patient has been married thirty years; gave birth to ten children, last ten years ago, at which time perineum suffered laceration. For five years she has suffered from irritable bladder caused by uterine displacement and vagino-cystocele, which exist in a marked degree. Pessaries were resorted to, but with little relief, since perineal support was lacking. Examination shows induration and hypertrophy of both lips of cervix, with prolapsus of bladder and anterior vaginal wall. Patient's general condition not very good.

March 24.—Patient was duly prepared, anæsthetized, and the indurated portion of cervix removed. The edges of perineum were then pared and approximated as in former cases.

April 1.—Patient has suffered much from flatulence and a cough, but is now much relieved. Removed deep sutures; union of deep surfaces perfect; tegumentary edges still disunited.

April 14.—Superficial edges have united since cough and colic have subsided; patient is walking about, a T bandage being applied.

April 15.—Left hospital greatly improved.

**CASE IV.**—Margaret M., aged 54, Ireland, admitted April 8, 1871. Patient was never married; never pregnant; never received injury to perineum, yet it is ruptured, and attended by complete prolapsus. Examination shows it to be due to ulcerating epithelioma. General health poor.

April 9.—Patient duly prepared, etherized, all suspected tissues thoroughly removed, and edges of wound approximated, as already described.

April 13.—Has suffered considerable pain, referred to back, necessitating the nightly administration of gts. vj. of sol Magendie, hypodermically. Parts kept clean by sol.

zinci chloridi, grs. 1*j.* to aqua f.3*j.* Appetite middling; tongue slightly coated, but moist. Bowels have not yet moved; urine still drawn by catheter.

April 19.—Deep sutures removed; good union in deep parts; tegumentary edges not united throughout.

April 30.—Perfect union, deep and superficial. Patient was discharged with a sound perineum. Ordered to wear the bandage, and rest much for a few weeks.

**CASE V.**—Mary O., aged 37, Ireland, admitted August 8, 1871. Has been married seventeen years, and gave birth to eight children, the first three and the last being premature and still-born. Perineum ruptured at birth of last living child, four years ago, and prolapsus of posterior vaginal wall has existed nearly three years. The usual train of symptoms attends this case, especially rectal tenesmus.

On day of admission patient was duly prepared, etherized, and an elliptical piece removed from prolapsed posterior vaginal wall, and the edges of wound approximated in a vertical line by five silver sutures. The perineum was freshened and restored in the usual manner, four deep sutures being used here instead of three.

August 14.—For a few days suffered from flatulence, also from irritable stomach and bladder. Injections eased bowels; Vichy water relieved stomach and bladder; urine drawn by catheter; vagina cleansed daily by tepid injections.

August 16.—Deep sutures removed; parts apparently firmly united, though still edematous, and bleed on slightest touch. Appetite still weak; ordered a milk punch daily.

August 19.—Removed sutures from vagina, also the superficial sutures from perineum; union excellent in both.

Sept. 8.—Left hospital, feeling, to use her own words, like a new creature.

Oct. 3.—Was seen at hospital; she is free from former symptoms; uterus in good position; perineum ample.

**CASE VI.**—Ann V., aged 30, U. S., admitted September 11, 1871. Has been married six years; had one child five years ago, in the birth of which perineum ruptured. For four years uterus has protruded beyond the vulva. The symptoms, already familiar, need not be enumerated.

September 12.—Having been duly prepared as to the clearing out of the bowel, the patient was chloroformed, and the peri-

neum restored in usual manner, three deep sutures being used. She was then placed in bed. P. M. Administered 15 gts. sol. Magendie, to ease pain.

September 18.—Removed the deep sutures; their tracks slightly ulcerated; union quite promising; bowels moved.

September 26.—Patient left hospital, suffering no pain or inconvenience, but perfectly well in every respect. Ordered rest, and use of perineal bandage.

**Case VII.**—Kate D., aged 38, U. S., admitted March 25, 1872. Has been married twenty-three years; has had seven children, youngest six years of age. Perineum ruptured in last labor, and soon after uterus began to descend. Complete procidentia has existed four years.

April 16.—The hypertrophied cervix having been amputated soon after admission, and the stump healing nicely by granulation, to-day patient was subjected to Elytrorrhaphy, an elliptical piece of anterior wall of vagina being removed, the object being to constrict the calibre of vagina and increase support of uterus. The edges were approximated by eight wire sutures. Then perineum was restored in the usual manner, four deep sutures being used.

May 1.—Great tension of parts; loosened the deep sutures.

May 5.—Removed deep sutures; deep union perfect; tegumentary union not perfect.

May 10.—Left hospital, wonderfully improved.

## EDITORIAL DEPARTMENT.

### PERISCOPE.

On the Pre-systolic Cardiac Murmur, or Mitral Stenosis.

In a Résumé on this important point, *The Doctor* remarks:—

It is not so many years since it was a common thing to hear distinguished practitioners deny the possibility of diagnosing with certainty the murmur of mitral stenosis. The past few years have witnessed the conversion of some of these doubters, and now, judging from the recent literature, the murmur is generally recognized, if not always correctly understood or explained. Although some have condemned the minute study of the differences of cardiac murmurs as an unprofitable refinement of diagnosis, we have always inclined strongly to the opinion that such refinements are so valuable as aids to the development of accurate observation, that we have devoted no small part of our leisure to the study of mitral stenosis. The lesion is, in our experience, as in Dr. Gairdner's, by no means uncommon, and its attendant physical signs in most cases clear and unmistakable. The fact that so much confusion still exists on the subject, and that one of the most recent papers on it contains a new attempt to explain the rhythm of the murmur, is sufficient to show that there is more difficulty than some have supposed in the detection of the lesion. This is due in great part to a want of clear appreciation of the varieties of murmur produced by obstructive disease of

the mitral valve. Our experience has led us to the conclusion that there are at least three varieties of the murmur diagnostic of mitral obstruction.

First, as the one most commonly recognized, we would place the roughish, sonorous murmur, preceding for an appreciable period, and finishing at the first sound with a whiff-like termination. This form is loud and churning in its character, not heard much beyond the region of the apex, and frequently accompanied by a thrill which, like the murmur, precedes and runs up to the apex beat. The true first sound in these cases is short and flapping in its character, often very like the normal second sound. This is the typical murmur of mitral stenosis, and is commonly associated with a funnel-shaped adhesion of the curtains of the valve, which projects into the left ventricle. The auricular surface of the funnel is often rough, and the button-hole opening thickened at its circumference, but still capable of allowing the valves to meet by surfaces so as to prevent regurgitation.

Second, there are some cases of mitral stenosis in which this murmur is not heard, but in place of this there is a short whiff. This murmur is much shorter than the first, is soft and blowing in its character, and varies in loudness from time to time. We have over and over again watched it disappear as the cardiac embarrassment was relieved, to appear again when the circulation was again disturbed. This murmur is often overlooked, and is not to be heard except immediately over the region of the apex. It terminates abruptly with the first sound

as determined by the carotid pulse, and is nearly always associated with irregularity of the pulse. This murmur we have heard in many instances in which the *post-mortem* examination has justified the diagnosis to which it pointed.

Third, there is the prolonged murmur at the apex which Durozéz has so well described; it really consists of the first and second murmurs with the addition of a systolic murmur of mitral regurgitation. It is a triple murmur really, and always points to the association of regurgitation with the obstruction, an association common enough when there is a rigid aperture to the funnel formed by the stenosis of the mitral valve. In the cases in which this prolonged murmur is present there is often great irregularity of the heart's action, but sometimes it is quite regular. The murmur also varies somewhat in the perfection of its features; sometimes one or another of its three parts may be less distinct than the others. The systolic portion, however, is audible at the base, and can be heard towards the axilla, and in the left interscapular space. This systolic part is usually short, coinciding with the carotid pulse; it sometimes precedes the true mitral flap sound, which is delayed until the funnel above the rigid button-hole checks by its closure further regurgitation. It is this which often leads to error; by some the flap sound of the mitral is mistaken for a second sound, by others it is regarded as making the beginning of the ventricular systole, while in reality it is in the middle.

Such are the three kinds of murmur associated with mitral stenosis. Accurately speaking, the last kind, the prolonged murmur at the apex, is pathognomonic, not of this lesion, but of a more complex lesion, obstructive plus regurgitant disease. It is better to retain it, however, in connection with mitral stenosis, because by some writers it was long regarded as the only murmur characteristic of mitral obstruction, and also because the regurgitant part of the murmur is, after all, an addition depending on an accidental peculiarity of the mitral obstruction, viz., the rigidity of the button-hole aperture.

#### Chlorosis.

In the *British Medical Journal*, Dr. W. F. WADE sums up a clinical lecture as follows:

Chlorosis occurring in young women who have menstruated at all is commonly the result of the loss of blood by the menstrual discharge.

When amenorrhœa occurs in these persons, it is a consequence and not a cause of the anaemia. Both primary and subsequent menstruations produce on the system the same effects that would be produced by any other hemorrhage of equal amount.

Treatment is rest, diet, and steel. The latter, sometimes failing alone, may be combined with manganese, or what is often better, substitute arsenic. Constitution may

be met by aloes or strychnia. When the former increases the menstrual flow, it must be omitted. If a high degree of serous plethora exists, producing vascular excitement, palpitation and congestion of the head, omit the iron and use morphia or bromide of potassium, with chloral, valerian, or stimulants in small quantities.

Aim to diminish the menstrual flow, especially where the chlorosis is increasing. Keep the patient on a couch during menstruation, giving bromide of potassium till the period is half over, and then extract of ergot. Digitalis sometimes checks the flow, and may be used when the ergot fails.

#### Aneurism Resulting from a Surgical Procedure.

The New York *Medical Record*, in a report of the New York Pathological Society, says:—

Dr. MASON presented the os brachii removed from a man thirty-six years of age. He gave the history as follows:—"One day, on leaving the Charity Hospital, I was informed by my house-surgeon that a man had just arrived, with a large abscess of the shoulder. I directed him to open it. The next day I was informed that the abscess had been evacuated, that a pint of pus had been discharged, but that the patient had nearly bled to death. The hemorrhage was checked with a great deal of difficulty by lint and persulphate of iron. On the following morning I found a large, robust looking man, exceedingly anaemic, with an arm and shoulder swollen to the size of a man's thigh. It was very evident from the appearance of things that this was a case not only of abscess, but of traumatic aneurism. A few days afterwards the lint was removed, and a large quantity of fetid pus was discharged. This discharge continued for some weeks. On rotating the arm, crepitus was discovered at the shoulder-joint, and it was then supposed to be fracture of the cervical neck of the os brachii, with attendant necrosis."

On consultation it was decided to open the wound, and in case the bone was found to be diseased, to excise it. This was done June 26, the patient having been etherized. While placing him under the anaesthetic, Dr. M. detected the head of the bone lying just beneath the clavicle. By a slight manipulation this was reduced in position. On examination with the finger in the wound this portion of the bone was found denuded and dead, and the wound being enlarged it was accordingly removed. In the course of this procedure a large quantity of coagulated blood was turned out of the sac. It was concluded that the posterior circumflex artery was the seat of the hemorrhage, as a vessel corresponding in its situation was found patent. This was secured after a good deal of difficulty, on account of the sloughing tissue in the neighborhood. At one time the prospect of securing the vessel was so slim, and the patient was so

fast sinking, that the idea of resorting to amputation of the shoulder-joint was seriously entertained.

The patient made a very excellent recovery, and every motion of the limb was preserved, save that of raising it more than four or five inches from the side.

#### Therapeutics of Infantile Diseases.

We make the following extract from a report to the Kansas Medical Society by Dr. A. R. LANPHIER:—

#### ACTION OF MERCURY.

Mercury, whatever other action it may be supposed to possess, has undoubtedly an affinity for the glandular system, especially of the salivary glands. Instance the well known mercurial sore mouth, and in the salivation attendant on the teething of infants, I am in the habit of exhibiting a powder of calomel and sugar, in the proportion of from one to twenty or one to forty, giving frequently dry on the tongue, and I rarely find a case to continue longer than two or three days under its use. Again, in cases of infantile diarrhoea, attended with frequent greenish discharges, which I interpret to be expressive of glandular excess, I administer the same remedy, and nearly always with benefit.

#### ACTION OF ACONITE.

Aconite is said to act upon the nerves of the heart, affecting thereby the circulation, and controlling fever. This is probably its primary effect in the ordinary medicinal doses, but in much smaller doses, say the one-eighth to one-sixteenth of a drop, I believe it operates by an effect upon the vaso-motor nerves, for I have never seen it do permanent good in idiopathic fever. On the contrary, in simple catarrhal fever, attended or not by local symptoms in the respiratory surfaces, or digestive tract, I have frequently observed the most magical results, the little patient becoming, in course of half an hour or hour, quiet, surface cool, bathed in healthful perspiration, followed by a natural sleep and rapid recovery. At other times these manifestations are more tardy in their appearance, but in a majority of instances the progress of the cases is more satisfactory than under any other means I had resorted to. At the outset of catarrhal croup, nothing in my hands has ever afforded that rapid relief to the patient, and satisfaction to parents and myself, as these small doses of aconite. In the early stages of pneumonia and bronchitis I have found nothing to please me so well as these small doses of aconite combined with small doses of spirits of mindererus, and I have authority for quoting with other physicians of our town. Not long since I was relating my experience in these small doses to a very intelligent

practitioner of a neighboring city, and he asked me if I had tried a teaspoonful of cold water with an eighth of a drop of nothing in it? I told him I had not; possibly I may do so. I am not prepared to assert positively that it would not be a good treatment in *pneumonia*. I have no doubt there are cases in which such medication would be available. Yet from the long continued habit of attributing good effects to the remedies exhibited, I am inclined to believe it legitimate to attribute the beneficial results to the small doses. Nevertheless, I am conscious that we cannot establish a correct system of therapeutics without first acquainting ourselves with the progress and termination of diseases, under favorable circumstances, uninfluenced by any therapeutic measures whatever.

#### The Cure of Cancer by Electrolysis.

At a meeting of the New York Pathological Society, reported in the *New York Medical Record*, January 2, 1872, Dr. NEFFTEL presented sections of carcinomatous deposit removed post-mortem from a lady who had died in consequence of mammary cancer. About two years ago she noticed a hard and painful lump in right mamma. This increased, and, with the pain, extended to the axilla. These masses were removed by operation. Soon after the operation she had an attack of pneumonia, from which she did not recover until the lapse of several months. In the meantime the wound cicatrized, but the pain still continued, and extended down the arm of that side, making it almost useless. After several months she felt that the cicatrix became indurated, and from these there seemed to be a string of smaller lumps, which aroused the suspicion in Dr. N.'s mind that the disease had translated itself to some internal organ; she then insisted upon being treated by electrolysis, and the treatment was pursued, in conjunction with Dr. Bailey, of Albany. To the surprise of Dr. N., not only did the secondary tumors disappear, but the patient improved in general health. So marked was this latter effect that Dr. N. was inclined to believe that he had been mistaken in his diagnosis of internal metastasis. After several months, tumors again showed themselves in the same locality; these were treated, and likewise disappeared. Finally the cervical glands became affected, and she began to suffer from asthmatic attacks, in consequence of pressure upon the pneumogastric; these were succeeded by an attack of pleurisy, due to cancerous exudation, and she finally died delirious. At the autopsy, the liver, lungs, and cervical glands were found infiltrated with cancerous material.

In speaking of the effects of electrolytic treatment upon cancer, Dr. N. stated that he had reason to believe it would always be successful if employed before the disease had become constitutional.

**Advantages of Spier's Artery Constrictor.**

A number of cases in which this instrument was used are reported in the *New York Medical Journal*, February, 1872, by Dr. CHARLES A. HART. He concludes:—

In all of the cases contained in this paper it will be noticed that but two occurred which at the time of the operation presented anything like favorable conditions for the application of any method which would be likely to control the vessels permanently through their progress to recovery or death. In the first case cited, the vessels were in an extreme state of disease, and one of such a character as to excite very grave fears on the part of any surgeon for the recovery of his patient. It also furnishes a good example of the relative merits of the ligature and the artery constrictor, and demonstrating the superiority of the latter method over the former, as *secondary hemorrhage occurred from the vessel to which the ligature had been applied, while the constricted vessels remained closed.* Case II, I had hoped, would have proved another advantage, viz., by the wound closing entirely by primary adhesion. This was partially obtained, and I have no doubt would have been perfect, had not the attack of croup, which was developed the night of the operation, prevented. The cure of the case, however, was accomplished. Case III demonstrated how groundless is one of the objections urged against this instrument by some of the older surgeons, viz., that "the force employed would divide the external coat of an artery, or at least injure it so as to cause it to slough;" in this case the artery belonged to the most delicate class, and, notwithstanding it was drawn into the sheath of the instrument to the extent of between a quarter and half an inch, with sufficient force to divide and invaginate the internal coats, the external remained uninjured. Its position, also, was one favorable to any consecutive bleeding, being in loose floating tissues, and unsupported by the pressure of any dressing. How the above objection could be urged against the use of the constrictor by practical surgeons, I can hardly understand, for a moment's reflection on the anatomical construction of arteries should preclude such an objection, as every professional man of any surgical experience can hardly fail to know that the external coat, composed as it is of connective tissue and elastic fibres, is extremely tough and resistant. As to the force used in the application of the instrument, it is far less in reality than that exerted by the ligature, and which is, I may say, always much more of a cutting instrument, from the fact of the ligature being much smaller in circumference than the beak or hook of the constrictor. The ligature, again, is frequently applied with such force as to break, even though generally composed of good, firm silk, while the cutting through of a vessel by it is far from common.

The valuable practical points which this

method presents over the ligature, and which, I think, are to some extent demonstrated by the cases contained in this paper, are:—

1. Its greater certainty of permanently controlling arteries in a healthy condition, as well as in extreme states of disease.

2. The wound being free from any absorbing or retaining agent, like the ligature, in which discharges can decompose, there is less liability to septic poisoning.

3. The wound being entirely free from any foreign body, there will be a greater probability of obtaining primary union, and which we can materially assist by hermetic closure of even as large wounds as in amputation of the thigh, by covering the entire stump with collodion.

4. Far less liability to secondary hemorrhage when applied to a vessel in its course. Should the invagination of the coats or clots give way, the current of blood will simply flow on in the old channel, and not exsanguinate the patient, as in secondary hemorrhage after the ligature.

**The Causes of Decay in Teeth.**

On this subject, Dr. S. P. CUTLER writes to the *American Journal of Dental Science*, March, 1872:—

Without proper physical exercise, digestion is imperfect, and in consequence every function is impaired, the secretions of the mouth becoming, as a general thing, acid in character, which causes early destruction of the imperfectly developed dentures, the teeth decaying frequently before fairly erupted.

Let us examine into the food of children at the present day. Instead of the good, wholesome, substantial food of former times, the most refined flour is used, and bolted meal, all kinds of tubers and fruits must be peeled clean, so as not to leave a trace of the mineral element on them. The dishes must be highly seasoned, and elaborate in numbers, appetizing dishes must be brought into requisition, in order to tempt the incapacitated stomach to take on what it cannot dispose of in a healthy manner. In this way the enfeebled stomachs are overtasked, in consequence, half-digested food is conveyed into the bowels, frequently ending in bowel complaints and other disorders; in consequence, doctors' stuff must be taken to do what nature should do.

This poorly assimilated food has to build and repair the tissues, which necessarily does the work imperfectly, the hard tissues being the greatest sufferers of all.

The confinement within doors of children, and young females especially, and want of sufficient fresh air, and out-door exercise in our cities and large towns, where the rooms are not always properly ventilated, is another fruitful cause of badly decayed bones and teeth, which have been referred to already.

The bad and impure air of large towns, where a large amount of coal is consumed,

and a corresponding amount of carbonic acid formed and given up to the atmosphere, besides what is furnished by decomposition of filth and respiration, together with other noxious gases, has an important bearing upon the present subject.

The system of education of the fashionable boarding schools is wrong in the extreme. The poor laborers on the plantations, and mechanics that have to take constant physical exercise, with plenty of good, plain and substantial food, including the negroes of the South, all have better teeth on an average, than the wealthier and more luxuriant. One striking proof of what I have stated is, that when negro women are brought from the cotton and corn fields, to serve as cooks and waiters about the houses of the wealthy, both on the plantations and in the towns, these same negroes and their offspring have bad teeth, as a rule, all owing mainly to change of diet and habits generally, their labors being less physical than while in the fields.

#### Flexions of the Uterus.

DR. GRAILY HEWITT, in the *Lancet*, gives the following definition of flexion:—

*Disease of the uterus, the essence of which is a change of shape.* That is, on the whole, perhaps, the best method of formulating the opinion which I wish to express, and it conveys the whole idea. In this definition it is not implied that flexion is the only thing which is important, or that it is the only condition which is or may be wrong in the uterus; but it is implied that flexion is the most important element in the matter.

As an introduction to what has to be stated later on, we may consider for a moment the anatomical relations of the uterus, predisposing, as it can be shown they do, to a change in its shape. Consider for a moment the manner in which the uterus is suspended in the pelvis. The upper part of the uterus, which is the main part of it, has no attachments, posteriorly or anteriorly, sufficient to absolutely maintain it in one position. The uterus is suspended in the middle of the pelvis, but it is suspended in such a manner that a degree of motion is allowed anteriorly and posteriorly, and there is much more motion allowed at its upper than at its lower part. It rarely moves from side to side, because laterally there are attachments which bind the uterus pretty effectually to the sides of the pelvis. And with reference to the cervix of the uterus, this is kept in its place pretty effectually by means of its connection with the bladder and the vagina at the upper part. The axis of suspension of the uterus, as it has been very properly designated, is represented by a horizontal line passing through the uterus from side to side, and about the situation of the internal os uteri. This leaves about half of the uterus above this point and about one-half below it. The lower half is more effectually fixed, and the upper part is very ineffectually fixed, except in reference to lateral motion, which is not

allowed except to a slight degree. Now what are the hindrances, it may be inquired, in reference to change of position of the upper part of the uterus? That is the part with which we are mainly concerned. It is quite obvious that the broad ligaments, which are the lateral attachments of the uterus, impede lateral motion. The round ligament is an important structure. It is attached to the upper part of the uterus on its anterior aspect; and when the round ligaments are intact, the motion of the upper part of the uterus backwards is, to a certain extent only, controlled. They seem to be so placed as to be intended to prevent this occurrence. With reference to the motion of the fundus uteri forward, there appears to be very little hindrance. The bladder is the chief obstacle to anterior motion of the uterus. The bladder, when distended, prevents the fundus uteri from falling forwards; but of course the bladder is not always full, and when it is empty there is nothing to preserve the uterus in its position—nothing of a special character, that is to say. Another element in the case next to be mentioned constitutes an important hindrance to anterior or posterior motion of the fundus uteri; it is the resistance of the uterus itself. The healthy uterus is an organ having very thick walls. The cavity is exceedingly small in proportion to the thickness of those walls. It is apparent that if the cervical part of the uterus be held pretty firmly in its place, the position of the upper part will be well maintained by the thickness of the walls. And thus this rigidity of the uterus itself—as it may be termed—unquestionably constitutes a very powerful hindrance to displacements of the fundus uteri. Subsidiary to these hindrances already mentioned must be added the general connection of the uterus with the adjacent viscera by means of blood vessels, and cellular tissue surrounding the blood vessels, also the peritoneum. But it cannot fail to be observed that these subsidiary means of attachment of the uterus apply, for the most part, to the lower part of the organ, and they do not, excepting indirectly, help to fix the upper part of the uterus. The Fallopian tubes aid very little in preventing anterior or posterior motion. This very delicate adjustment of the uterus in its position in the pelvis—for it is a very delicate adjustment—is a physiological necessity. It would be impossible otherwise for the uterus to expand, and it would be impossible for it to undergo those changes of position which are involved in the existence and course of pregnancy, were it not for the fact that the attachments of the uterus are such as now described. It is the upper part which undergoes this expansion in pregnancy in order to fit it to become the residence of the foetus, and this part is left comparatively free. But for the physiologic necessities involved in the propagation of species, the uterus would doubtless have been fixed much more firmly and with liability to the alterations of shape as mentioned.

**Advantages of Spier's Artery Constrictor.**

A number of cases in which this instrument was used are reported in the New York *Medical Journal*, February, 1872, by Dr. CHARLES A. HART. He concludes:—

In all of the cases contained in this paper it will be noticed that but two occurred which at the time of the operation presented anything like favorable conditions for the application of any method which would be likely to control the vessels permanently through their progress to recovery or death. In the first case cited, the vessels were in an extreme state of disease, and one of such a character as to excite very grave fears on the part of any surgeon for the recovery of his patient. It also furnishes a good example of the relative merits of the ligature and the artery constrictor, and demonstrating the superiority of the latter method over the former, as secondary hemorrhage occurred from the vessel to which the ligature had been applied, while the constricted vessels remained closed. Case II, I had hoped, would have proved another advantage, viz., by the wound closing entirely by primary adhesion. This was partially obtained, and I have no doubt would have been perfect, had not the attack of croup, which was developed the night of the operation, prevented. The cure of the case, however, was accomplished. Case III demonstrated how groundless is one of the objections urged against this instrument by some of the older surgeons, viz., that "the force employed would divide the external coat of an artery, or at least injure it so as to cause it to slough;" in this case the artery belonged to the most delicate class, and notwithstanding it was drawn into the sheath of the instrument to the extent of between a quarter and half an inch, with sufficient force to divide and invaginate the internal coats, the external remained uninjured. Its position, also, was one favorable to any consecutive bleeding, being in loose floating tissues, and unsupported by the pressure of any dressing. How the above objection could be urged against the use of the constrictor by practical surgeons, I can hardly understand, for a moment's reflection on the anatomical construction of arteries should preclude such an objection, as every professional man of any surgical experience can hardly fail to know that the external coat, composed as it is of connective tissue and elastic fibres, is extremely tough and resistant. As to the force used in the application of the instrument, it is far less in reality than that exerted by the ligature, and which is, I may say, always much more of a cutting instrument, from the fact of the ligature being much smaller in circumference than the beak or hook of the constrictor. The ligature, again, is frequently applied with such force as to break, even though generally composed of good, firm silk, while the cutting through of a vessel by it is far from common.

The valuable practical points which this

method presents over the ligature, and which, I think, are to some extent demonstrated by the cases contained in this paper, are:—

1. Its greater certainty of permanently controlling arteries in a healthy condition, as well as in extreme states of disease.

2. The wound being free from any absorbing or retaining agent, like the ligature, in which discharges can decompose, there is less liability to septic poisoning.

3. The wound being entirely free from any foreign body, there will be a greater probability of obtaining primary union, and which we can materially assist by hermetic closure of even as large wounds as in amputation of the thigh, by covering the entire stump with colloidion.

4. Far less liability to secondary hemorrhage when applied to a vessel in its course. Should the invagination of the coats or clots give way, the current of blood will simply flow on in the old channel, and not exsanguinate the patient, as in secondary hemorrhage after the ligature.

**The Causes of Decay in Teeth.**

On this subject, Dr. S. P. CUTLER writes to the *American Journal of Dental Science*, March, 1872:—

Without proper physical exercise, digestion is imperfect, and in consequence every function is impaired, the secretions of the mouth becoming, as a general thing, acid in character, which causes early destruction of the imperfectly developed dentures, the teeth decaying frequently before fairly erupted.

Let us examine into the food of children at the present day. Instead of the good, wholesome, substantial food of former times, the most refined flour is used, and bolted meal, all kinds of tubers and fruits must be peeled clean, so as not to leave a trace of the mineral element on them. The dishes must be highly seasoned, and elaborate in numbers, appetizing dishes must be brought into requisition, in order to tempt the incapacitated stomach to take on what it cannot dispose of in a healthy manner. In this way the enfeebled stomachs are overtaxed, in consequence, half-digested food is conveyed into the bowels, frequently ending in bowel complaints and other disorders; in consequence, doctors' stuff must be taken to do what nature should do.

This poorly assimilated food has to build and repair the tissues, which necessarily does the work imperfectly, the hard tissues being the greatest sufferers of all.

The confinement within doors of children, and young females especially, and want of sufficient fresh air, and out-door exercise in our cities and large towns, where the rooms are not always properly ventilated, is another fruitful cause of badly decayed bones and teeth, which have been referred to already.

The bad and impure air of large towns, where a large amount of coal is consumed,

and a corresponding amount of carbonic acid formed and given up to the atmosphere, besides what is furnished by decomposition of filth and respiration, together with other noxious gases, has an important bearing upon the present subject.

The system of education of the fashionable boarding schools is wrong in the extreme. The poor laborers on the plantations, and mechanics that have to take constant physical exercise, with plenty of good, plain and substantial food, including the negroes of the South, all have better teeth on an average, than the wealthier and more luxuriant. One striking proof of what I have stated is, that when negro women are brought from the cotton and corn fields, to serve as cooks and waiters about the houses of the wealthy, both on the plantations and in the towns, these same negroes and their offspring have bad teeth, as a rule, all owing mainly to change of diet and habits generally, their labors being less physical than while in the fields.

#### Flexions of the Uterus.

Dr. GRAILLY HEWITT, in the *Lancet*, gives the following definition of flexion:—

*Disease of the uterus, the essence of which is a change of shape.* That is, on the whole, perhaps, the best method of formulating the opinion which I wish to express, and it conveys the whole idea. In this definition it is not implied that flexion is the only thing which is important, or that it is the only condition which is or may be wrong in the uterus; but it is implied that flexion is the most important element in the matter.

As an introduction to what has to be stated later on, we may consider for a moment the anatomical relations of the uterus, predisposing, as it can be shown they do, to a change in its shape. Consider for a moment the manner in which the uterus is suspended in the pelvis. The upper part of the uterus, which is the main part of it, has no attachments, posteriorly or anteriorly, sufficient to absolutely maintain it in one position. The uterus is suspended in the middle of the pelvis, but it is suspended in such a manner that a degree of motion is allowed anteriorly and posteriorly, and there is much more motion allowed at its upper than at its lower part. It rarely moves from side to side, because laterally there are attachments which bind the uterus pretty effectually to the sides of the pelvis. And with reference to the cervix of the uterus, this is kept in its place pretty effectually by means of its connection with the bladder and the vagina at the upper part. The axis of suspension of the uterus, as it has been very properly designated, is represented by a horizontal line passing through the uterus from side to side, and about the situation of the internal os uteri. This leaves about half of the uterus above this point and about one-half below it. The lower half is more effectually fixed, and the upper part is very ineffectually fixed, except in reference to lateral motion, which is not

allowed except to a slight degree. Now what are the hindrances, it may be inquired, in reference to change of position of the upper part of the uterus? That is the part with which we are mainly concerned. It is quite obvious that the broad ligaments, which are the lateral attachments of the uterus, impede lateral motion. The round ligament is an important structure. It is attached to the upper part of the uterus on its anterior aspect; and when the round ligaments are intact, the motion of the upper part of the uterus backwards is, to a certain extent only, controlled. They seem to be so placed as to be intended to prevent this occurrence. With reference to the motion of the fundus uteri forward, there appears to be very little hindrance. The bladder is the chief obstacle to anterior motion of the uterus. The bladder, when distended, prevents the fundus uteri from falling forwards; but of course the bladder is not always full, and when it is empty there is nothing to preserve the uterus in its position—nothing of a special character, that is to say. Another element in the case next to be mentioned constitutes an important hindrance to anterior or posterior motion of the fundus uteri; it is the resistance of the uterus itself. The healthy uterus is an organ having very thick walls. The cavity is exceedingly small in proportion to the thickness of those walls. It is apparent that if the cervical part of the uterus be held pretty firmly in its place, the position of the upper part will be well maintained by the thickness of the walls. And thus this rigidity of the uterus itself—as it may be termed—unquestionably constitutes a very powerful hindrance to displacements of the fundus uteri. Subsidiary to these hindrances already mentioned must be added the general connection of the uterus with the adjacent viscera by means of blood vessels, and cellular tissue surrounding the blood vessels, also the peritoneum. But it cannot fail to be observed that these subsidiary means of attachment of the uterus apply, for the most part, to the lower part of the organ, and they do not, excepting indirectly, help to fix the upper part of the uterus. The Fallopian tubes aid very little in preventing anterior or posterior motion. This very delicate adjustment of the uterus in its position in the pelvis—for it is a very delicate adjustment—is a physiological necessity. It would be impossible otherwise for the uterus to expand, and it would be impossible for it to undergo those changes of position which are involved in the existence and course of pregnancy, were it not for the fact that the attachments of the uterus are such as now described. It is the upper part which undergoes this expansion in pregnancy in order to fit it to become the residence of the foetus, and this part is left comparatively free. But for the physiological necessities involved in the propagation of the species, the uterus would doubtless have been fixed much more firmly and with less liability to the alterations of shape and posi-

We now come to consider the causes of flexion of the uterus. If we wish to trace the pathology of any disease, we search out its beginning; we endeavor to ascertain the point at which the healthy action passed into one unhealthy or diseased. When the disease is far advanced, it is often very difficult to determine its real etiology and pathology. Various complications have been by that time added, and various secondary effects, which mask the primary one. For this reason I just now directed your attention to the shape and position of the uterus, and the methods by which it is sustained therein. A slight failure in any one of these conditions of equilibrium is really the beginning of a flexion.

We may usefully divide the causes of flexion into two—the predisposing and the exciting causes.

One of the most important of the predisposing causes is *an unhealthy state of the body generally*; another is a previous pregnancy. These are the most important predisposing causes of flexion of the uterus; and I will say a word or two respecting each of them. The tissues of the body, imperfectly or badly nourished, are relaxed and wanting in tonicity. The circulation in the blood vessels is retarded under these circumstances—it is sluggish and imperfect; and the tissue-changes take place with greater slowness than under ordinary circumstances and in a state of health. The effect of this state of things upon the uterus is most marked: it increases its size; its circulation becomes slow; and, as a necessary mechanical result of this, flowing from the considerations which I have just laid before you, there occurs a diminution in the rigidity of the uterus itself—one of the most important agents, as I have endeavored to show, in preserving the uterus intact. In other words, the uterus becomes pliable to an unusual degree. This is a state of things which constitutes a very strong predisposition to a change of shape in the uterus. In what class of individuals do you observe such a condition as this? In young women who are growing very fast, in whom the vital processes ought to be exceedingly active, at the age of twelve to fifteen or eighteen; who are badly fed, surrounded by hygienic circumstances of a deteriorating character, especially so when confined in close apartments and workrooms. These are the conditions of life which predispose to this want of rigidity of the uterus. The other predisposing cause which I have to allude to is *pregnancy*. If the uterus has undergone the expansion and enlargement inseparable from pregnancy, there is thus constituted a predisposition to flexion, and the predisposition is created in the following manner:—After pregnancy is over and the uterus vacated, it is some time before the organ returns to its normal dimensions. In fact, it does not return to the dimensions which existed before. In round numbers, the increased size would be represented by one-fourth in the healthy uterus after normal gestation and its effects

have properly come to an end. In the next place, it must be stated that the quickness and rapidity with which the uterus becomes reduced in size after pregnancy is very various. In some cases the uterus is exceedingly slow in returning to its normal dimensions. If the process goes on healthily, the uterus speedily returns to its proper size—probably within a month; but in other cases it is a considerable number of months before the uterus is found of its normal size. This involution of the uterus, as it is termed, goes on in this inactive manner in a very considerable number of instances; but even when it goes on to the full extent and with the usual quickness, the uterus is still left larger than it was before. And it must not be forgotten that the increased size affects not so much the cervix as the body of the uterus, which, as already stated, is, from its want of connection, more predisposed to a change of position. These constitute the predisposing causes of flexion. There are several others, but these are the two main ones.

Next we come to exciting causes. The exciting cause is sometimes simply an exaggeration of the predisposing ones. For instance, an ill-nourished woman becomes pregnant. There we have the two classes of predisposing causes in operation together. Here the uterus is a long time in returning to its proper size after the labor is over; the patient very soon falls pregnant again, and perhaps a third or fourth time. Thus the uterus has very little rest: it has scarcely time to recover the effect of one pregnancy before another pregnancy follows. The result is that, in following her ordinary avocations, the uterus in such a patient gradually gives way. The upper part of it, that is to say, comes to assume a position which is partly one of flexion; and when the flexion has once arrived at that point, the patient has generally no more children. She is liable to miscarriage; and if she conceives, that conception is followed by miscarriage. Most frequently she does not conceive, and the uterus is left in this flexed condition; and if it attracts no attention, it remains so and never gets cured. The case which I have just laid before you is one which shows that constant action of predisposing causes leads to the disease by itself, the predisposing causes acting by themselves; and when we get the two together we have what amounts to an exciting cause. The other exciting causes to be mentioned are of a more positive and direct character. One important exciting cause is an accidental strain or fall, such as in the following case:—A lady standing at her door is about to step into a carriage; the servant is sent to fetch something; she stands by the horse's head; the horse suddenly takes fright and starts forward; the lady holds on by the rein, and is dragged some yards. She undergoes great exertion thereby and then, and the result is that the uterus is forced downwards and backwards, and retroflexion of the organ is instantly originated. I need hardly say I am now giving you an actual case. Take an-

other instance:—A young lady, previously in a state of good health, but unused to much exertion, goes to a ball, and, not accustomed to dancing, dances for a long time together—five or six hours. She feels rather ill; and, to add to this, the following morning on coming down stairs, she slips and falls on her back, passing over four or five steps, and receiving a violent jerk. She experiences intense pain; and it is found on examination a few days afterwards that the uterus is acutely anteflexed. Another instance:—A lady, four days after parturition, in the absence of her nurse, rises from her bed, and walks across the room to get something. She experiences a sudden severe pain and returns to her bed. She makes light of it at first; but a few months afterwards, after undergoing a course of continuous discomfort, it is found that she is suffering from retroflexion of the uterus, which originated, doubtless, as I have mentioned.

I might multiply instances *ad infinitum* in which it was demonstrable that the starting point of the flexion was an accident. Another exciting cause of flexion of the uterus is the position of the body. It is quite certain that remaining in a constrained position daily for a great number of hours has a very important influence in the production of one of the forms of flexion of the uterus. I mean anteflexion. Young women, for instance, employed in a dressmaking establishment, and following their occupations for many hours during the day, without any opportunity of taking exercise, combined not seldom with bad living, and thus bringing into play the predisposing causes also. It is not at all rare to find, under such circumstances, that the uterus becomes anteflexed. The use of sewing machines I have observed to be followed by the same result. This is due to the position of the body. A word more in reference to pregnancy as a cause. We frequently find in practice that patients attach extreme importance as regards the commencement of their maladies to their confinements, suspecting the illness to be due to some peculiarity in the confinement itself. Undoubtedly when the perineum has been much injured that is a source of mischief, and may lead to this and other disorders; but flexion may originate without injury of the perineum.

How, it may be asked, does the fundus of the uterus descend forwards or backwards, as the case may be? It descends in consequence of the pressure from above when a sudden or forcible exertion involves putting into a state of rigidity the abdominal muscles. The viscera of the abdomen receive the pressure, and that which offers the least resistance, of course, will give way. It is a matter of accident whether the fundus moves forwards or backwards. That is determined by other conditions which I have to put before you presently.

We pass now to the study of the *varieties* of flexion of the uterus. Supported as the uterus is at each side, lateral flexion is very rare. The uterus is generally either bent

forwards or backwards, constituting in one case anteflexion, in the other retroflexion. With reference to the comparative frequency of these two events, the following is, I believe, the truth on the subject. Anteflexion of the uterus is more common than retroflexion, and in the proportion of about three to two; but severe anteflexion is more rare than severe retroflexion. A consideration of the attachments of the uterus gives the clue to this. There is, in fact, less support for the uterus behind than there is in front. When the fundus gets bent backwards, it will be seen there is more room for it, and it can descend further posteriorly than anteriorly. The pouch behind is much the deeper. In front there can hardly be said to be a pouch. That is why the flexion in retroflexion is often more acute than in cases of anteflexion. You may, perhaps, ask at this stage of the inquiry, What is the difference between flexion and version? In point of fact, version very rarely occurs without some degree of flexion, nor does flexion usually occur without some degree of version. Simple retroversion, with no actual curving of the uterine canal, I do not know that I have ever witnessed, but I have seen one or two cases of very complete simple anteversion in the cases of forward inclination of the uterus.

Let me in the next place call your attention to some of the *pathological effects* of flexions of the uterus. What would be the effect upon the uterus of a bending of the organ? It would obviously be to produce a compression of the tissues of the organ at the seat of the bend. Such compression is in the nature of things inevitable. The distance between the external and the internal wall will be diminished. The diminution of the thickness of the walls of the uterus will take place to a greater extent on the concave side of the bend. There will be a diminution of the diameter at the position of the flexion, and the general result will be that there is a compressing force exercised at the middle of the uterus upon the tissues of the organ. What will be the effect of this compression? The arteries of the uterus pass into it from its sides. They come from the uterine artery, one on each side passing upwards from below. There is another supply of arterial blood from above by means of the small Fallopian branch of the spermatic artery. Were it not for this small branch the effect of forcibly compressing the uterine arterial branches would be that the upper part of the uterus would get very little blood at all. It is certain that compression, such as occurs in flexion, and is exercised on the middle part of the uterus, has the effect of materially retarding the circulation in the vessels, veins as well as arteries, traversing the body of the uterus. The result is, in effect, a *congestion of the body of the uterus*, and, in a less degree, also a *congestion of the cervical part of the organ*. In order to give prominence to this mechanical effect, and to signify its clinical importance, I have ventured to describe it under the title of "Strangulation of the Uterus." It is, I

believe, an inevitable result that the circulation in the upper part of the uterus should be in a considerable degree interfered with when compression is thus exercised upon the uterus and its vessels, the result being that the upper part of the uterus comes in the end to contain a larger portion of blood than usual. It becomes unduly heavy and larger. It becomes not only congested, but likewise unduly sensitive, to an extraordinary degree in some cases; and the congestion and undue sensitiveness constitute the most important of the phenomena, to a less degree in anteflexion than in retroflexion, but even in the former cases to a marked degree in many instances. This compression in the middle of the uterus has various effects in different cases. After a time, if the flexion is not very acute in degree, the uterus may become habituated to it, and flexion becomes after a certain interval less embarrassing to the uterus. The uterus acquires toleration to a certain extent, and then we do not see the patient. But when it does not acquire that toleration, or when, as frequently happens, the malady increases, we have an opportunity of witnessing these effects; the fundus uteri is found sensitive, swollen, and tender to a degree; the patient is in a state of discomfort which hardly any physical condition of other organs of the body can exceed. The compression of the uterus is a phenomenon to which I attach great importance as a feature in the natural history of these cases. Various writers on this subject take views on the matter which differ considerably from those which I have just laid before you. It is held, for instance, that this congestion, or so-called inflammation, of the upper part of the uterus is not the only primary evil, but the cause of the pain in these cases of flexion; while the flexion itself is of secondary consequence. I would wish to speak with all respect of the opinions of others; but I must say that my experience has led me to take a very opposite view. The inflammation or congestion of the upper part of the uterus is generally considerable. It is only so far primary in the degree and in the manner I have already pointed out in speaking of predisposing causes of flexion. Thus a congestion of the upper part of the uterus, which we may suppose to exist to begin with, may, in the first instance, produce flexion. Having done that, the flexion will react upon the congestion, and will increase it; and, unless cured, it will prevent the cure of that congestion. I do not at all deny the importance of this element of fulness of the blood-vessels of the upper part of the uterus — very far indeed from that; but the relation which exists between the two things is, I believe, the one which I have endeavored to lay before you. This view influences the treatment in these cases very decidedly indeed; for whereas others are disposed to treat the affections, at all events in the first instance, by blood-letting and leeches—a treatment which has for its effect removal of congestion—I submit that such cases should

be treated by going more to the root of the matter, viz., by an alteration of the shape of the uterus, which is the means of keeping up the congestion. And this method of treatment I have had the greatest reason to be satisfied with in practice.

#### Early Puerperal Eclampsia.

Mr. LAWSON TAIT, in the *Lancet*, gives the following case:—

J. C.—, aged twenty-seven, the mother of two children, and to whom two miscarriages had occurred, applied at the hospital on February 12th. She complained of pain in the back, occasioned by a fall. The cause of the fall she asserted to be a sudden loss of consciousness, which lasted for some time. She stated that she was within a month of her full time—a circumstance which led to the examination of her urine. This was found to be intensely albuminous, and there can be no doubt that the fall was occasioned really by a uremic convulsion. She was ordered fifteen-drop doses of the tincture of the muriate of iron and half a drachm of nitric ether in an ounce of water, every four hours, and advised to call in medical assistance at the earliest indication of labor. At three o'clock on the morning of the 15th she was found to be in labor. The pregnancy had not, however, advanced to the sixth month. The urine was found to be only slightly albuminous, but, as a matter of precaution, she was kept under the influence of chloroform for about two hours. Throughout the 16th, 17th, and 18th, the uterine action seemed in abeyance, but on the 19th she was delivered of a putrid fetus of about the fifth month. Her labor was superintended by Dr. Poncia, who reports that there were no indications of eclampsia, and that she has recovered well.

*Remarks.*—We have here a very unusual condition of puerperal uremia occurring early in pregnancy, and in a multipara, causing, as usual, the death of the fetus, and discovered by the merest accident. Had the patient gone untreated, there is every reason to believe that a most serious risk of her life would have occurred. Sir James Simpson pointed out the value of the combination of iron and nitric ether, and this case seems to have been one in which its efficacy was well marked.

#### Gleet.

Dr. J. B. WOODSON, in the *Kansas City Medical Journal*, contends for local treatment by actual contact with the diseased surface and external counter-irritation.

He has used for the last three years the deep injections. These can be best applied by means of a rather large sized catheter, pierced at the small end with small holes for the space of two and a half or three inches, and having the eyelets closed. This instrument being introduced, the injection is thrown in by a strong rubber syringe with a long beak large enough to fit tightly in

the end of the catheter. This instrument the writer has found to be much better than the catheter-syringe. The disease being reached by these means, it is as easily controlled as it could be in any other situation. He has been so fortunate as to effect cures in cases that had baffled all the skill and patience that had been brought to bear upon them.

R.—F.—came under treatment July 10, 1869; had gleet following a gonorrhœa contracted while in the army in 1862—seven years previously—had had more or less discharge ever since, but had never to his knowledge contracted a fresh clap. This case was treated by the method above mentioned, and also by a blister of cantharidal collodion applied externally to the whole length of the under side of the urethra; this treatment is rather severe, but it has generally been found to be effectual.

The injection used through the catheter was at first nitrate of silver, grs. 5 to the ounce of water. After a while it was changed for tinct. of iodine, dr. 1 to the ounce of water. As constitutional treatment the patient took tinct. of chloride of iron and tinct. of cantharides. This case yielded slowly. A great many different remedies were employed; but finally, at the end of three and a half months, the overjoyed patient pronounced himself entirely well, and he has never been troubled with the complaint since.

C. P. S. came under treatment January 10th, 1870. Had had gonorrhœa very often; did not remember how many times; had had a discharge, variable in quantity, for nearly three years past; had tried all manner of injections, and had taken "a barrel of copaiba," all of which had had only a temporary effect; he was then "as bad as ever," and also had spermatorrhœa. The treatment was commenced by blistering the perineal portion of the urethra, and as soon as the resulting soreness permitted, the catheter was brought into requisition and a mild solution of tincture of iodine, dr.  $\frac{1}{2}$  to one oz. of water, was injected; this was followed by nitrate of silver, and subsequently by Monsel's solution, and in two months the case was discharged—cured.

The treatment is rational, and offers a vast advantage over any other of which he is aware. One great point is *patience*. The surgeon must not expect to take these cases by storm and to cure long standing disease in a very short time. There are very few cases that will resist the treatment if it is fairly applied. In a record of over twenty-five cases treated in this manner there is but one failure, and that was owing to the dissipated habits of the patient. The blister over the course of the urethra is especially recommended, even if it should confine the patient to bed—if it should, all the better for him. The cardinal point in the treatment of this disease is, that it is just like a similar disease of mucous membrane in any other accessible situation, and is, *mutatis mutandis*, amenable to the same modes of treatment.

#### Concealed *Præ Partum* Hemorrhage.

Dr. J. PARSONS, in the *British Medical Journal*, reports as follows:—

Case I.—The patient was the wife of a weaver; a strong and healthy primipara, arrived at the seventh month of gestation. On February 8th she was seized with faintness and a feeling of painful distension of the abdomen; but, as no labor-pains occurred, no treatment was adopted by the midwife beyond keeping the patient in bed. As, however, the pallor and distension increased, I was summoned on the 12th, and found the woman exhausted and exsanguined to a remarkable degree. Upon examination, although there had been no pains or discharge, the os uteri was flaccid and dilatable, the membranes unruptured, and the face presenting. I had at the time no idea of the nature of the case with which I had to deal; but possessed with the dread instinctive in an accoucheur of seeing my patient die undelivered, and miles away from instruments or professional assistance, I introduced my hand into the unresisting uterus, and immediately delivered the small dead fetus by the feet. Finding the abdomen but little diminished in size, I thought there was another child to be born, and plied the woman freely with brandy and ergot; and after a while had the satisfaction of finding the placenta thrown off. The cause of danger and perplexity then became evident, for I removed from five to seven pounds of old, black coagula. The uterine surface of the placenta showed that it had been detached over its larger part. The woman slowly recovered to a great extent, but was ever afterwards an invalid, and remarkable for her extreme pallor.

Case II occurred to one of those unhappy individuals whose fairtime (to use a Scotticism) was a catalogue of disasters. She had arrived at the eighth month of her eleventh pregnancy, when she was, at 4 A. M., while lying quietly in bed, seized with sudden deadly syncope. As she lived close to my house I saw her in a few minutes, and, recognizing the nature of the case, I examined, and found the head presenting and the funis prolapsed. Being thus able to assure myself that the child was dead, and knowing from former experience that to deliver the patient with forceps was a work of time and difficulty, I did not hesitate to resort immediately to craniotomy, and, after giving ergot, to remove the placenta, and a large mass of coagulum which appeared to be of recent formation. The patient recovered, and had children subsequently.

Case III.—This patient is the wife of an innkeeper living four miles from my house, and was expecting her seventh confinement in November last. For four days she had been observed to lose her color, and complained of hardness and tension of the abdomen, but had continued to move about and attend to her household duties. On the afternoon of the 19th she fell suddenly in her kitchen, and was for a long time unconscious. When she was carried to bed a

slight discharge of blood was observed, and I was sent for, being told to come directly, as she had had a fit. When I arrived she had become conscious, but was tossing about faint and pulseless, with no labor-pains, but a slight sanguineous discharge from the vagina. On examination I found the os about the size of a shilling, occupied by distended membranes, but very hard and resisting. I immediately sent to my son, Dr. Parsons, asking him to bring various instruments, and intending, as the urgency of the case seemed increasing every moment, to deliver as soon as he arrived. As, however, by reason of distance, a considerable time must necessarily elapse, I determined to do something; and so I ruptured the membranes, and gave at once two drachms of the liquid extract of ergot, repeating the dose in half an hour. Fortunately, these means were successful in controlling the hemorrhage; and on my son's arrival the aspect of affairs had so much improved that we considered it right to wait a while, and watch for the issue. About midnight a laboring-pain came on, and the woman was delivered naturally about 3 A. M. The child had been evidently dead for some days, and the placenta was followed by a great gush of fluid blood, and many pounds of old clot. The woman is still suffering from exhaustion and bloodlessness, but will, I trust, ultimately recover.

The cause of the accident of which I have been speaking is, to me, obscure. In neither of these cases had there been any over-exertion, nor had either of the patients been exposed to any of those shocks of body or mind which we are accustomed to see followed by hemorrhage and premature birth. In the first and third cases the pallor and painful distension showed that a moderate discharge of blood had been taking place between the placenta and uterine walls for some days, before a sudden and unaccountable increase occurred, and produced the alarming symptoms already described. Although the issue was fortunate in these instances, yet I need not tell you it is by no means always so, two or three fatal cases having occurred within my own knowledge. In the last case, my distance from home led me to adopt measures which fortunately proved successful; but, looking at the tendency to sudden increase of symptoms, I would not voluntarily run the risk of delay, but should make it a rule, where I had reason to believe that subplacental hemorrhage was going on, to induce labor and complete the delivery of the patient by the speediest method suitable to each particular case.

I do not know any condition likely to cause difficulty in the recognition of this accident. In the second case, the sudden and complete collapse and violent pain might at first have led to a supposition of ruptured uterus or abdominal pregnancy; but the round, well-defined uterus, hard as a cricket-ball, and perhaps the absence of tenderness, would at once clear up the diffl-

culty. In neither case did I observe any diseased condition of the placenta likely to account for its separation from the uterus, though the appearances plainly indicated that such separation had taken place to a very large extent.

## REVIEWS AND BOOK NOTICES.

### NOTES ON BOOKS.

—The American Republication of the English quarterlies and Blackwood's Magazine, by the Leonard Scott Publishing Co., 140 Fulton street, New York City, deserves the support of the reading men of our country. At the singularly moderate price of \$15 a year, one can provide himself with Blackwood, the Edinburgh Review, the Westminster Review, the London Quarterly, and the British Quarterly. A discount of 20 per cent. is allowed to clubs of four or more persons.

### BOOK NOTICES.

*Clinical Charts.* By W. W. Keen, M. D. Turner Hamilton, Publisher, Philadelphia.

Perhaps nothing more practically useful to the busy physician, for his daily memoranda of cases, has been offered than these little charts. We have a series of thirteen outline figures, showing every portion of the body, and a tabulated diagram for the respiration, pulse and temperature. A case in all its salient points can thus be rapidly sketched, and from day to day a glance shows the changes that have occurred. We most cordially commend them to the profession, and hope by their valuable aid to obtain a vast improvement in the records of practice on the part of the brethren, whether teachers or private practitioners.

### AMERICAN MEDICAL ASSOCIATION.

The Triennial list of Permanent Members will be published this year. Permanent Members who have not paid their assessment will please notice:—

“Any Permanent Member who shall fail to pay his annual dues for *three successive years*, unless absent from the country, shall be dropped from the roll of Permanent Members.”

WM. B. ATKINSON,  
Permanent Secretary.

## MEDICAL AND SURGICAL REPORTER.

PHILADELPHIA, AUGUST 3, 1872.

B. W. BUTLER, M. D., D. G. BRINTON, M. D., Editors.  
 □ Medical Societies and Clinical Reports. Notes and Observations, Foreign and Domestic Correspondence, News, etc., etc., of general medical interest, are respectfully solicited.

Articles of special importance, such especially as require original experimental research, analysis, or observation, will be liberally paid for.

□ To insure publication, articles must be *practical, brief* as possible to do justice to the subject, and *carefully prepared*, so as to require little revision.

□ Subscribers are requested to forward to us copies of newspapers containing reports of Medical Society meetings, or other items of special medical interest.

We particularly value the practical experience of country practitioners, many of whom possess a fund of information that rightfully belongs to the profession.

The Proprietor and Editors disclaim all responsibility for statements made over the names of correspondents.

## REMARKS ON THE CORRELATION OF FORCES.

The theory of the metamorphosis of force, brought so prominently into notice in the last decade, and which plays so important a part in modern physiological speculations, has probably been accepted too readily and too completely. It is a rare event in the history of science that any one theory flings wide open the doors of nature's arcanum, and as a rule, when any theory or theorizer pretends to do so, the claim turns out to be deceptive.

We have watched with interest the intense anxiety—for this is the proper term—manifested by many physiologists and naturalists to reduce all vital phenomena to manifestations of force under some of its protean forms, and all force to forms of motion. It is time that physicians and physicists learn that this theory of correlation, while true enough of certain secondary forms of force, is *not* true, indeed is entirely untrue of the higher and primary forms. And secondly, it is true they should learn that there are various manifestations of power in the universe which arise from a principle wholly outside of mechanical force, which cannot be explained by any theory of con-

version, and which point to an existent and potent something which is certainly neither matter nor force in any of their forms known to us, and cannot be resolved into them. On the first of these points we shall now make some remarks, with the intention of merely illustrating the course of argument which opposes the ordinary theory of correlation.

Among primary forces are recognized, gravity, cohesion, chemical affinity, and magnetism. These forces are persistent in the nature of matter, they are independent, and they are unchangeable. Gravitation, for instance, is not motion, nor the result of motion. It differs irreconcilably from the other primaries in that it acts instantaneously everywhere. Arago estimated that if it acted by emitting a traveling force, its velocity must be not less than fifty million times that of light.

To explain the apparent cessation of motion in rest, philosophers have invented the fiction of "latent force." There can be no such thing as a latent force. The true solution is that force is not motion, nor are they convertible terms. The mathematical laws under which they act are radically dissimilar, and on the other hand we are surrounded by incalculable forces constantly resisting solicitations to motion. The forces at rest in the universe far exceed the forces in action. The tendency of the universe is toward rest; toward a static and not a dynamic condition. Force expressed in motion is, therefore, not forever the same, as has been so often stated; and its alleged conservation, in the common acceptance of the term, is a dream.

Strike out the single attribute of elasticity from matter, and the whole theory of the conservation of force, in any form, falls to the ground. True, so far, all matter that we know anything about has this quality of elasticity. That it is essentially and necessarily inherent in matter, however, there is no proof and no theoretical likelihood.

Force at rest, therefore, presents us the example of a positive power, existent, ready for action, but without *phenomenal* existence; a substance, if you please, without attributes. Gravity shows us a force in action, manifesting its phenomena without reference to space or time, independent of these attributes. Can we carry these somewhat abstruse speculations a step forward and glean from them any hints as to the character of *vitality*? This question we shall touch upon next week.

#### NOTES AND COMMENTS.

##### Opium Smoking.

The Lowell, Mass., *Journal* of the 22d has a letter from Foochow, China, giving these interesting facts about opium:

A large portion of Middle China is devoted to the cultivation of the poppy; and already the English and American merchants are complaining that their profits are diminished by the rapidly increasing product of the Chinese drug.

Intelligent Chinese inform me that the number addicted to opium smoking is rapidly increasing. All classes are alike guilty of the vice, and in some cases entire families are ruined, both physically and financially, by the use of the drug.

This is an aqueous extract made by first dissolving the crude opium in water and steaming, then carefully boiling. The impurities, such as fragments of leaves, sticks, etc., are skimmed off, and this is continued until it has a consistency and appearance resembling tar. The prepared opium represents about twice its own weight of crude opium drug. It is retailed to the smokers, who carry it in small boxes made of buffaloes' horns.

The implements used in smoking are the pipe, a small lamp, and a flattened wire. The pipe is made of some heavy wood, frequently of ebony, mounted with silver trimmings. They are from one to one and a half feet in length, and from one to one and a half inches in diameter. The bowl of the pipe is made of earthenware, and has only a small aperture to receive the opium.

The smoker reclines on his side, and, if wealthy, he has a servant to hold his pipe, hand him his opium, and fan him. A

quantity of opium about the size of a pea is collected on the end of a wire, placed in the bowl of the pipe, and ignited by being brought into contact with the flame of the lamp. The smoker inhales it in two or three whiffs, and it is retained in the lungs as long as possible.

The amount consumed by the habitual smoker is quite surprising. A quarter ounce is daily used by hundreds, and in some cases he believes it reaches an ounce.

##### Treatment of Sunstroke.

We notice that the recommendation of Dr. RICHARDSON (of London) to bleed in certain cases of sunstroke, where there is venous congestion, has been quoted by a number of newspapers, and credited to the senior editor of this journal. Our Periscope department contained this recommendation of Dr. RICHARDSON, but we take this opportunity to say that, in our opinion, its applicability is extremely limited, and very rarely occurs in this country. The general treatment of sunstroke must be based on entirely different principles.

##### A Pinching Shoe.

Some time since a correspondent in Maine sent us the advertisement of a quack in that State who advertised "horse-virus" and "cow-virus," on which we made some comment. A physician near Boston, it seems, concluded that we meant *him* (why, he best knows), and induced the editor of a medical monthly in that city to forget so far the ordinary rules of courtesy and respect for correctness of statement as to admit a note charging us with "blackmailing," etc. Any inquiry at all would have satisfied the editor in question how unjust and unfounded was his opinion.

##### Extract of Beef.

The English Consul at Montevideo, in his report on the trade of Uruguay, says that the violent displays of party feeling in that republic paralyze its resources, and destroy its prospects. As an illustration of the results derived from the intelligent practical employment of capital, the Consul gives the case of the establishment at Fray Bentos, on the Uruguay River, of the factory for making Liebig's Extract of Meat. During the eight working months of the season of 1871, this manufactory exported \$70,000

pounds of the essence of meat, derived from the slaughter of 122,075 cattle, and valued at \$1,650,000. The company in addition had also exported 6,252,000 pounds of jerked beef, 300,000 horns, 124,000 hides, 1000 tons of bones, 200 tons of tallow, 25 tons of hair, and a great variety of miscellaneous products. 3000 tons of salt were used, and 3000 tons of coal were consumed. Fifty-two ships are employed in the exclusive transportation of the products of the factory.

#### Inoculation of Small-Pox by Skin Grafting.

In a recent discussion on skin-grafting in the Berlin Medical Society, Herren HAHN and ZULZER referred to an instance recorded in the *Deutsche Militair-ärztl. Zeitschrift*, in which portions of skin for grafting were taken from the amputated limb of a woman in whom, the day after the operation, the eruption of small-pox appeared, and proved fatal. One of the four patients on whom the skin was grafted had small-pox, but in a mild form. He was, however, a man of intemperate habits, and died, according to Herr ZULZER, of pneumonia.

#### Hydrochlorate of Ammonia.

Dr. Spencer Thomson says, in the *British Medical Journal*, that he has found this, one of the most efficient remedies in portal dropsy, in scruple or half drachm doses, tolerably diluted, every six or eight hours.

### NEWS AND MISCELLANY.

#### Patents Issued.

List of Medical and Surgical Patents issued from the United States Patent Office to United States Inventors, for the week ending June 25, 1872, and each bearing that date. Furnished this paper by Cox & Cox, Solicitors of Patents, Washington, D. C. :—

Medical Compound—John D. Doyle, Rochester, New York.

Medical Compound — Charles Goffinet, Leopold, Indiana.

Nasal Douche—Wm. B. Snyder, Bridgeport, Connecticut.

THE Indians in California are learning the emotional insanity plea in extenuation of their little irregularities. A man in Trinity Centre, California, was recently shot at by a presumably friendly Indian, and upon demanding the cause, the Indian bounded off with the rifle, crying out, "Me heap crazy! Me too much crazy! Me too much crazy!"

#### Honors to Boerhaave.

The city of Leyden, Holland, has just inaugurated with great pomp a statue of Boerhaave, the great naturalist and physician, in presence of a vast multitude. A deputation from the Academy of Belgium attended, and the flags of that country were seen mingled with the Dutch colors. The monument is 11 feet 8 inches high, and stands on a pedestal of ten feet from the ground. The deceased is represented in his professional robe, with a book in his hand, and seems to be either beginning or terminating a lecture.

#### Treatment of Inebriates.

A select committee of the British House of Commons has been taking evidence in regard to habitual drunkards, and, according to a correspondent of *The Leeds Mercury*, the committee have reported unanimously in favor of establishing reformatories for patients belonging to the upper, middle and lower classes. Persons are to be admitted to these, either on a voluntary application, or by order of a court of inquiry, or on a committal by a magistrate in petty sessions for a fixed period. Stringent regulations and close inspection of the reformatories are to be enacted.

#### A Philadelphian Promoted.

Dr. Charles S. Turnbull, son of Dr. Turnbull, of our city, has just been appointed Resident Assistant Surgeon in the New York Ophthalmic and Aural Institute.

#### The Cholera.

Asiatic Cholera is reported to be raging at various points on the northern coast of the Black Sea and at Odessa, and orders have been issued to erect suitable hospitals for persons who may be attacked with the disease at that port. In the district of Kiev, situated along the river Dnieper, there have been since the commencement of the epidemic 2328 cases of cholera, of whom 1032 died and 715 recovered, leaving 531 patients under treatment. A quarantine of ten days has been ordered at Constantinople on all vessels arriving from Russian ports.

FOUR cases of cholera are reported to have been recently discovered at Constantinople on board a British steamer coming from Russia. Stringent precautionary measures have been ordered in consequence.

A LETTER has appeared in the Washington, N. J., Star, signed Joseph S. Cook, M. D., stating that the writer has suffered an "unjust, cruel and malicious" imprisonment in the New Jersey State Lunatic Asylum, calling attention to its present official management, and urging the necessity of a thorough investigation into the affairs of the institution.

**A**N ingenious apparatus has been invented by a French physician, by which the heart is made to register photographically its own pulsations. Such, it is said, is the peculiarity of the apparatus, in its adaptation to different uses, that it may be modified so as to register the variations of the respiration, the irregular action of coughing, and similar physiological phenomena.

**T**HIS Prussian Government publicly calls attention to the presence of trichine in hams imported via Bremen from the United States, warning purchasers to abstain from them, and threatening the sellers with criminal proceedings.

**D**R. HENRY SHELDON died at Dorset, Vt., on Tuesday week. He was for thirty years a practicing physician at Rupert, and represented Bennington county in the Senate, with the late Governor John S. Robinson.

**P**ERSONS who have lived many years in India say that the heat of the present summer in America is more oppressive than anything they have ever experienced near the "coral strand."

**P**O TASH SALTS are essential to the assimilation of plants; without them starch is not formed in the chlorophyll granules, and the weight of the plant remains constant as in pure water. (Prof. Nobbe.)

**P**ROFESSOR WANKLYN states that filtration of water through beds or layers of porous material suffices to destroy any albuminoid dissolved in the water, converting it into ammonia.

**T**HE fungus which grows on the calcareous rocks of Florida is said to possess narcotic properties, and to be used by the natives to some extent as a substitute for tobacco. (Dr. Isidor Wells.)

**D**R. CASPER WISTER has been appointed an Inspector of the Philadelphia County Prison by the Supreme Court—a most judicious selection.

**T**HE trustees of the State Lunatic Hospital, Mass., have appointed Dr. Bernard D. Eastman, of Washington, D. C., as superintendent, in place of Dr. Benois, resigned.

**A** MAN, at Louisville, recently recovered \$100 damages from a chemist, for the sufferings caused by a mistake of the latter in putting up a prescription.

**T**HE posting of placards of quack medicines has been prohibited in the streets of Chicago.

**I**N removing the bodies from an old burying ground to the new cemetery in Le Roy, N. Y., recently, the remains of a lady about sixty years of age, who had been buried nearly twenty years, were found in a complete state of petrification, with the hair perfectly preserved.

**D**R. CALVIN CUTLEE, author of Cutler's Physiology, died recently at his home in Warren, Mass., after an illness of only two hours.

**A** DENTIST at Peoria, Ill., announces, with candor, that he extracts teeth "with great pains."

#### NOTES AND QUERIES.

**M**edical Legislation.—**M**essrs. **E**ds.: Does the legislative enactment which you presented to your readers in the MEDICAL AND SURGICAL REPORTER, June 15, 1872, prohibit a regular practitioner from delivering lectures on medical subjects? Or does it require such a member to take out a license for the use of the county? P. J. K.

**R**EPY.—The law does not prevent a practitioner from delivering lectures in the county where he resides, and where he is in practice.

#### MARRIAGES.

**E**WING—**A**RRELL.—By Rev. Jacob Coon, June 25, at the residence of the bride's father, James B. Ewing, M. D., of Uniontown, Fayette county, Pa., and Miss Estie, second daughter of Mr. D. B. Arrell, of Whiteside county, Ill.

**R**AYMOND—**C**OLAS.—At the residence of the bride's parents, No. 51 West Twenty-fifth street, July 15, by Rev. R. S. McArthur, E. H. Raymond, D. B. S., and Therese M. Colas, all of New York.

**R**ONGERS—**W**ATSON.—In Bedford, Pa., June 20, by the Rev. R. F. Wilson, Dr. Jeph G. Rodgers, of Madison, Indiana, and Miss Margaret S. Watson, of Bedford.

**S**TILLERY—**A**LBERTSON.—By Rev. J. C. Boyd, June 25, H. M. Stillery, M. D., and Annie M. Albertson, both of Bethel, Pa.

**T**UFT—**M**OORE.—On July 10, by Rev. J. S. Cook, at the parsonage, No. 2013 Fitzwater street, Philadelphia, R. H. Tuft, M. D., and Miss Anna B. Moore, both of Elizabethtown, Md.

**T**OWNSEND—**B**LODGETT.—In Newbury, Vermont, July 4, by the Rev. S. L. Bates, Dr. Henry M. Townsend and Miss Isabella Blodgett, both of Monroe, N. H.

#### DEATHS.

**C**OWLEY.—July 16, of cholera infantum, Lizzie D., infant daughter of Dr. D. and M. M. Cowley.

**E**VANSTON.—In Philadelphia, July 18, of pneumonia, Newman Everett, M. D., in the 81st year of his age.

**H**ENDER.—July 16, Daniel W., son of Rebecca and the late H. H. Higbee, M. D.

**H**UBBARD.—In Springfield, Vermont, July 12, Dr. Calvin Hubbard, aged 77 years.

**R**AE.—At the residence of Mr. R. W. Cameron, Clifton, July 12, John Rae, A. M., M. D., a native of Aberdeenshire, Scotland, in the 77th year of his age.

**P**ATTERSON.—At Altoona, Pa., July 15, Thomas B. Patterson, M. D., of New Orleans, La.

**T**AFT.—In Hancock, Vermont, June 28, Harry Arthur, son of Dr. A. H. and Louett M. Taft, aged one year.